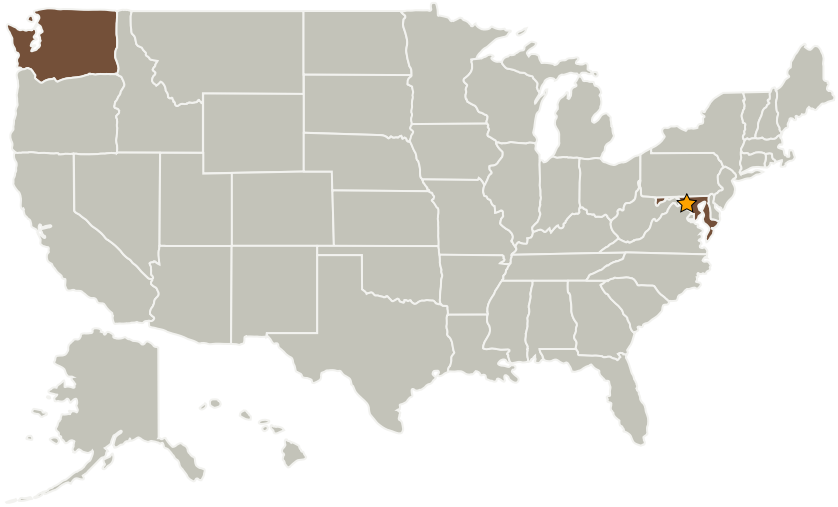
Compact All Solid State Oceanic Inherent Optical Property Sensor, Phase II

Completed Technology Project (2009 - 2011)

Project Introduction

This work concerns the development of a prototype of a Volume Scattering Function (VSF) sensor for measurement of this inherent optical property(IOP) of seawater. The proposed prototype combines new development from Phase-I with our existing technology to extend existing capability for measuring VSF from 0.1 to 20 degrees, out to 170 degrees. We have developed a new and innovative sensor module that permits high sub-degree angular resolution measurement of VSF. The system is simple, yet powerful. For example, it permits programmability of the range of angles to be explored. A case is one of bubbles, which produce a bump in the VSF between 60-180 degrees. The instrument will be self-contained, internally recording, powered by batteries or external power. Beam attenuation coefficient will also be measured. The technology extends existing VSF measurement capability for benefit of NASA's interest in remote sensing.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Sequoia Scientific, Inc.	Supporting Organization	Industry	Bellevue, Washington

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Maryland	Washington

Project Transitions

September 2009: Project Start

May 2011: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves